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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,412	08/25/2003	Norio Kaneko	B588-034	3676

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EXAMINER

GOKHALE, SAMEER K

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 03/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/647,412		KANEKO ET AL.	
	Examiner		Art Unit	
	Sameer K. Gokhale		2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 03 February 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 1-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 30-43 in the reply filed on 2/3/2006 is acknowledged.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 30-31, and 34-36 and 41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 30-31, and 34-36, the phrase "that the user touches with a finger of the plurality of menu items..." on lines 10-11 of claim 30, renders the claim indefinite because it is unclear what the phrase "of the plurality of menu items" is meant to modify because it directly follows the term "a finger".

Regarding claim 41, the phrase "A computer readable recording medium recording a program..." on lines 1-2 of the claim, renders the claim indefinite because it is not clear if applicant is claiming the computer readable recording medium or the process of recording a program."

Given the above rejections based on 35 U.S.C. 112, the following rejections are based on the claims as best understood by the examiner.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless – (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 30, 35, 37, 39, 40, and 41 are rejected under 35 U.S.C. 102(e) as being anticipated by Hinoue et al. (US 6,879,710) (hereafter, "Hinoue").

Regarding claim 30, 39, 40, and 41, Hinoue teaches an information input/output apparatus (Fig. 1) and computer program (see col. 8, lines 53-54), and a computer readable medium (it is inherent that Hinoue has a computer readable medium for the computer program of the apparatus) for controlling an operation of a target apparatus (Fig. 7) on the basis of a user authentication result associated with a user who operates the target apparatus (see col. 5, lines 23-26, where the fingerprint verification is the user authentication result), comprising: a menu presentation unit configured to present a list of a plurality of menu items used to operate the target apparatus (Fig 7, where the number pad displayed is a menu of items used to operate the apparatus 71); a haptic information acquisition unit (Fig. 1, unit 34) acquire haptic information of the user (see col. 9, lines 52-64, where the fingerprint information here is haptic information because

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it is only read upon the user's touching of the screen) on the basis of a position of the menu item that the user touches with a finger of the plurality of menu items presented by said menu presentation unit (see col. 8, lines 6-23, where the device acquires the fingerprint information and the coordinate of the keypad number touched); and a user authentication unit (Fig. 1, fingerprint verification section 42) authenticate the user on the basis of the haptic information acquired by said haptic information acquisition unit (Fig. 1, where fingerprint verification section 42 is authenticating the user's fingerprint data based on the fingerprint data, which as discussed above is haptic information).

Regarding claim 35, Hinoue teaches an apparatus wherein the user is authenticated on the basis of fingerprint information of the user (Fig. 1, fingerprint verification section 42), which is detected from a distribution of at least one physical quantity of a pressure and calorific value produced by the finger of the user (see col. 9, lines 52-64, where the fingerprint information here only read upon the user's touching of the screen, which indicates that a threshold quantity of pressure is being detected).

Regarding claim 37, Hinoue teaches an information input/output method for controlling an operation of a target apparatus (Fig. 7) on the basis of a user authentication result associated with a user who operates the target apparatus (see col. 5, lines 23-26, where the fingerprint verification is the user authentication result), comprising: a menu presentation step of presenting a list of a plurality of menu items used to operate the target apparatus (Fig 7, where the number pad displayed is a menu of items used to operate the apparatus 71); a fingerprint information acquisition step of acquiring fingerprint information of the user on the basis of a position of the menu item

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that the user touches with a finger of the plurality of menu items presented in the menu presentation step (see col. 8, lines 6-23, also see col. 10, line 65 to col. 11, line 1, where the device acquires the fingerprint information and the coordinate of the keypad number touched, therefore it is acquiring fingerprint information of the user on the basis of a position of the menu item); and a user authentication step of authenticating the user on the basis of the fingerprint information acquired in the fingerprint information acquisition step (Fig. 4, step a6).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 31-34, 36⁴⁰ and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hinoue in view of Rosenberg et al. (US 6,429,846) (hereafter, "Rosenburg").

Regarding claim 31, Hinoue teaches the limitations of claim 30 as discussed above, however Hinoue does not teach a haptic information output unit configured to output haptic information in a state that allows the user to recognize information contents thereof upon user's touching the information with the finger at the position of each menu item presented by said menu presentation unit.

However, Rosenberg does teach a haptic information output unit (Fig. 1, item 16, see col. 1 line 65 to col. 2 line 5, where the device can also be a touchscreen) configured to output haptic information in a state that allows the user to recognize information contents thereof upon user's touching the information with the finger at the position of each menu item presented by said menu presentation unit (see col. 2, lines 41 – 53).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Rosenberg in the device of Hinoue by incorporating the haptic output elements of Rosenberg into the touch screen of Hinoue, where the motivation to combine was to provide haptic output sensations to the user to indicate an event occurring on the display.

Regarding claim 34, Hinoue in view of Rosenberg teach the limitations of claim 31 as discussed above, and Rosenberg further teaches a haptic information output by said haptic information output unit is information perceived by the user as at least one physical quantity of a three-dimensional pattern, electricity, and calorific value at respective positions of the plurality of menu items (see col. 5, lines 10-14).

Regarding claim 36, Hinoue in view of Rosenberg teach the limitations of claim 31 as discussed above, and Rosenberg further teaches an image display (Fig. 1, display 12) configured to visually display predetermined image information, and wherein both the image information displayed on said image display, and the haptic information output by said haptic information output unit are presented to the user (Fig. 1, touchpad

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16, see col. 5, lines 10-14, where the haptic information is presented to user while the image information is also presented to the user).

Regarding claims 32, 38, and 40, Hinoue teaches a haptic information input unit, method, and computer program (see col. 8, lines 53-54) configured to acquire a user's fingerprint on the basis of a position of the menu item touched by the user of the plurality of menu items (Fig. 7, see col. 8, lines 6-23, where the device acquires the fingerprint information and the coordinate of the keypad number touched, and where the number pad displayed is a menu of items used to operate the apparatus 71); and user information processor (Fig. 1, CPU 32) configured to acquire a user's intention and authenticate the user on the basis of the user's fingerprint acquired by said haptic information input unit (see col. 10, lines 9-21, where a user's intention is obtained detecting the location on the screen that the user intended to touch).

However, Hinoue does not teach a haptic information output unit configured to output a plurality of menu items required for the user to operate a target apparatus as haptic information in a state that allows the user to recognize information contents thereof upon user's touching the information with a finger.

However, Rosenberg does teach a haptic information output unit configured to output a plurality of menu items (see col. 2, lines 41 – 53, where the menu items are outputted as haptic information since a pulse can be output as the user moves between menu elements) required for the user to operate a target apparatus as haptic information in a state that allows the user to recognize information contents thereof

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upon user's touching the information with a finger (see col. 2, lines 41-44, where the haptic sensations mentioned are felt by a user's finger).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Rosenberg in the device of Hinoue by incorporating the haptic output elements of Rosenberg into the touch screen of Hinoue, where the motivation to combine was to provide haptic output sensations to the user to indicate an event occurring on the display.

Regarding claim 33, Hinoue in view of Rosenberg teaches the limitations of claim 32 as discussed above, and Rosenberg further teaches a recognition result output unit (Fig. 1, touchpad 16) configured to inform the user of information indicating whether or not the target apparatus has recognized the user's intention acquired by said user information processor (see col. 2, lines 41 – 53, where the user moves between menu elements a pulse can be outputted, therefore if it is user's intention to move over a specific menu element then this intention will be recognized).

8. Claims 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hinoue in view of Liu et al. (US 5,804,462) (Hereafter, "Liu") and further in view of Yu (US 2004/0025029).

Regarding claim 42, Hinoue teaches an information input/output apparatus for controlling an operation of a target apparatus (Fig. 7) on the basis of a user authentication result associated with a user who operates the target apparatus (see col.

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5, lines 23-26, where the fingerprint verification is the user authentication result), comprising: a menu presentation unit configured to present a list of a plurality of menu items used to operate the target apparatus (Fig 7, where the number pad displayed is a menu of items used to operate the apparatus 71); a haptic information acquisition unit (Fig. 1, unit 34) acquire haptic information of the user (see col. 9, lines 52-64, where the fingerprint information here is haptic information because it is only read upon the user's touching of the screen) on the basis of a position of the menu item that the user touches with a finger of the plurality of menu items presented by said menu presentation unit (see col. 8, lines 6-23, where the device acquires the fingerprint information and the coordinate of the keypad number touched); and a user authentication unit (Fig. 1, fingerprint verification section 42) authenticate the user on the basis of the haptic information acquired by said haptic information acquisition unit (Fig. 1, where fingerprint verification section 42 is authenticating the user's fingerprint data based on the fingerprint data, which as discussed above is haptic information).

Hinoue further teaches a haptic information element having a haptic information unit (Fig. 7) corresponding to one kind of haptic information (see col. 9, lines 52-60, where the apparatus can detect the pressure corresponding to a user touching the screen) and each haptic information unit includes a first function unit configured to detect corresponding haptic information (see col. 9, lines 52-60, where the apparatus is configured to detect the pressure corresponding to a user touching the screen), and a second function unit reproduce some or all pieces of detected haptic information (see

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col. 9, lines 52-60, where reproducing is the same as sending the detected haptic information to the central processing unit).

However, Hinoue does not teach a haptic information element having haptic information units corresponding to a plurality of different kinds of haptic information.

However, Liu does teach a multiple sensor semiconductor chip having haptic information units (Fig. 5, sensor 10) corresponding to a plurality of different kinds of haptic information (see col. 5, lines 19-23). However Liu does not teach using a semiconductor chip for a fingerprint reader.

However, Yu does teach using a semiconductor for a fingerprint reading device (see para. 23).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the semiconductor of Liu behind the of touch screen of Hinoue, where the motivation to combine was to detect multiple kinds of haptic information on the same device.

Regarding claim 43, Hinoue teaches an information input/output apparatus for controlling an operation of a target apparatus (Fig. 7) on the basis of a user authentication result associated with a user who operates the target apparatus (see col. 5, lines 23-26, where the fingerprint verification is the user authentication result), comprising: a menu presentation unit configured to present a list of a plurality of menu items used to operate the target apparatus (Fig 7, where the number pad displayed is a menu of items used to operate the apparatus 71); a haptic information acquisition unit

(Fig. 1, unit 34) acquire haptic information of the user (see col. 9, lines 52-64, where the fingerprint information here is haptic information because it is only read upon the user's touching of the screen) on the basis of a position of the menu item that the user touches with a finger of the plurality of menu items presented by said menu presentation unit (see col. 8, lines 6-23, where the device acquires the fingerprint information and the coordinate of the keypad number touched); and a user authentication unit (Fig. 1, fingerprint verification section 42) authenticate the user on the basis of the haptic information acquired by said haptic information acquisition unit (Fig. 1, where fingerprint verification section 42 is authenticating the user's fingerprint data based on the fingerprint data, which as discussed above is haptic information).

However, Hinoue does not teach a haptic information acquisition unit comprising a substrate, a metal oxide layer formed on the substrate, and an electrode, and detects a plurality of different kinds of information by electrodes formed on a plurality of portions obtained by dividing the metal oxide layer.

However Liu does teach a haptic information acquisition unit comprising a substrate (Fig. 4, substrate 16), a metal oxide layer formed on the substrate (Fig. 4, layer 36, see col. 3, line 60), and an electrode (Fig. 4, layer 34, see col. 3, lines 10-11), and detects a plurality of different kinds of information (see col. 5, lines 19-25) by electrodes formed on a plurality of portions obtained by dividing the metal oxide layer (Fig. 4, and see col. 5, lines 19-25, where the metal oxide layer 36 is divided here, and will also be divided when multiple sensors are placed on the same chip). However Liu does not teach using a semiconductor chip for a fingerprint reader.

However, Yu does teach using a semiconductor for a fingerprint reading device (see para. 23).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the semiconductor of Liu behind the of touch screen of Hinoue, where the motivation to combine was to detect multiple kinds of haptic information on the same device.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chen et al. (US 5,709,219) teaches method for creating a tactile sensation on a user interface. Snibbe et al. (US 6,496,200) teaches a flexible variation of a haptic interface resolution.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sameer K. Gokhale whose telephone number is (571) 272-5553. The examiner can normally be reached on M-F 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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SKG
March 6, 2006

Sameer Gokhale
Examiner
Art Unit 2673

AMR A. AWAD
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read 'AMR A. AWAD', written over a horizontal line.